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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/036,458	03/06/1998	MARIE ANGELOPOULOS	YO998-086	5986

7590

03/15/2005

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EXAMINER
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YOON, TAE H

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/036,458

Applicant(s)

ANGELOPOULOS ET AL

Examiner

Tae H. Yoon

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.  
4a) Of the above claim(s) 26-32 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-7, 9-20 and 22-24 is/are rejected.  
7) ☒ Claim(s) 8, 21 and 25 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

Newly submitted claims 26-32 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: New claims and the examined claims are related as subcombination and combination since particular solvents and additives recited in said claims 26 are not required in the instant claim 1, for example.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 26-32 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 is indefinite since the formula does not contain Q and A defined in the end of the claim. Claim 15 is indefinite since the definition for Q and A of the formula is missing.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-7, 10, 13-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP 0315514.

EP teaches the instant polymerization of aniline in the presence of mixed fluorinated solvents in abstract. The acid doped polyaniline inherently meets the formula of claim 14, and undoped polyaniline inherently meets the formula of claim 15. Thus, the instant invention lacks novelty.

Above rejection is maintained with following response.

Contrary to applicant's assertion, EP teaches polymerization of aniline in the presence of mixed fluorinated solvents meeting the instant invention, and applicant failed to show the concentration taught by EP does not yield substantially maximized electrical conductivity.

Claims 1-7, 9, 10, 13-18 are rejected under 35 U.S.C. 103(a) as obvious over EP 0315514.

The instant invention further recites a concentration of polyaniline in a solvent over EP.

However, it would have been obvious to one skilled in the art at the time of invention to adjust a concentration of polyaniline in a solvent in EP since EP teaches a solution.

Above rejection is maintained with following response.

Adjusting a concentration of a solution in polymerization in order to obtain a good yield or to control polymerization is a routine practice in the polymer art.

Claims 1-4, 6, 7, 10-12, 16-19 and 22-24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ikenaga et al (US 4,772,421).

Ikenaga et al teach the instant polymerization and blend with a resin and a method of making an article such as film in examples 6-12. Various conductive precursors and polymers are taught at col. 3, lines 8-21. Thus, the instant invention lacks novelty.

Above rejection is maintained with following response.

Contrary to applicant's assertion, monomers such as acetylene, furan, pyrroloe or thiophene taught at col. 3, lines 8-21 meet the instant conjugated polymer system (see page 1 of the instant specification). Applicant asserts the uses of the final

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products are totally different from the instant claims, but the intended use has no probative value also evidenced by applicant's statement in the bottom of the first page of "REMARKS" that the product can be put to number of uses with respect to 35 USC 112 PP rejection.

With respect to the example 6 of Ikenaga et al, applicant asserts that the curing of the resins of said example differs from the instant claims, but the examiner disagrees with said assertion since the instant claim 19 recites blending with a thermoset polymer and since the recited "a method comprising ----- processing said solution to form an article" of claim 1 permits a curing of a thermoset polymer with a pyrrole solution as in said example 6.

Claims 1-4, 6, 7, 9-19 and 22-24 are rejected under 35 U.S.C. 103(a) as obvious over Ikenaga et al (US 4,772,421) in view of Tan (US 5,863,658) or EP 0315514.

The instant invention further recites a solution concentration of less than 5% and polyaniline over Ikenaga et al. However, polyaniline is one of the art well known conducting polymer as taught by Tan and EP.

It would have been obvious to one skilled in the art at the time of invention to adjust a concentration in a solvent of Ikenaga et al since Ikenaga et al teach a solution, and further to utilize the art well known (poly)aniline of Tan or EP in Ikenaga et al since Ikenaga et al teach employing various conductive precursors and polymers.

Above rejection is maintained with following response.

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Ikenaga et al do not state (poly)aniline as stated by the examiner, but polyaniline is one of the art well known conducting polymer as taught by Tan and EP. Thus, the use of said (poly)aniline in Ikenaga et al is a *prima facie* obviousness since Ikenaga et al teach employing various conducting monomers and polymers thereof and since the disclosure of Ikenaga et al is not limited to examples at col. 3, lines 8-21.

Claims 1, 3, 11-15, 17, 19 and 22-24 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tan (US 5,863,658).

Tan teaches films obtained from polyaniline at col. 1, lines 55-62. Tan also teaches that the doped polyaniline is soluble in hexafluoroisopropanol and that blends of polyaniline and various thermoplastics and elastomers with controllable conductivity can be obtained at col. 1, line 63 to col. 2, line 6. Thus, the instant invention lacks novelty.

Above rejection is maintained with following response.

The teaching of the known fact at col. 1, line 63 to col. 2, line 6 meets the invention. The instant hexafluoroisopropanol is taught at col. 2, line 2.

Claims 1-4, 9, 11-15, 17-19 and 22-24 are rejected under 35 U.S.C. 103(a) as obvious over Tan (US 5,863,658).

The instant invention further recites a concentration of polyaniline in a solvent over Tan.

However, it would have been obvious to one skilled in the art at the time of invention to adjust a concentration of polyaniline in a solvent in Tan since Tan teaches a solution.

Above rejection is maintained with following response.

Adjusting a concentration of a solution in polymerization in order to obtain a good yield or to control polymerization is a routine practice in the polymer art.

Claims 8, 21 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae H. Yoon whose telephone number is (571) 272-1128. The examiner can normally be reached on Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Tae H Yoon  
Primary Examiner  
Art Unit 1714

THY/March 10, 2005